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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,359	01/13/2004	Toshiyuki Kojima	OMRNP075	3338

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EXAMINER	
HOUSHMAND, HOOMAN	
ART UNIT	**PAPER NUMBER**
2609	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/757,359	KOJIMA ET AL.	
	Examiner	Art Unit	
	Hooman Houshmand	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *05/19/2005, 03/23/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Bell (USP 6052380), which incorporates by reference Chow (USP 5,479,447).

Regarding **Claim 1**:

Bell (col 10, lines 9-12), (col 11-12, lines 57-3), (col 10, lines 19-21) teaches:

A method of judging communication stability of a network system (channel equalization method col 11, line 58) including a master unit (the Master node col 11, line 65) forming a programmable controller (programmable processor col 8, lines 36-39) and a slave (node col 12, line 37) connected to a network, said method comprising the steps of: transmitting from said master unit to said slave a distorted test pattern (the signal frequency altered) formed by distorting a standard test pattern (a specific frequency) to a specified distortion level (discrete multi-tone col 11, line 67); returning a response from said slave to said master unit if said slave receives said distorted test pattern normally; and judging that said network system has communication stability corresponding to said specified distortion level (noise and attenuation col 4, line 33) if

said master unit receives said response normally (channel equalization process col 11, line 66).

In addition, Chow teaches the discrete multi-tone technique (col 2 lines 43-46).

Regarding **Claim 2**:

Chow teaches:

wherein a plurality of distorted test patterns (performance margin objective and desired overall bit-error-rate col 7 lines 25-27) are sequentially transmitted (incrementally add, one bit at a time, the amount of data to be transmitted col 5 lines 2-3) from said master (transmitter col 2 line 44) to said slave (receiver col 2 line 45), each of said distorted test patterns being formed by distorting said standard test pattern to a different one of a plurality of specified distortion levels (variable target bit error rates col 5 line 35), said method further comprising the steps of: determining a boundary (system performance margin col 5 lines 46-47), beyond which communication from said master unit to said slave becomes impossible (monitoring the mean-squared-errors col 5 line 55), based on whether or not there is a response from said slave to the distorted test pattern (bi-directional communication between transmitter and receiver col 7 lines 8-9) distorted to each of said specified distortion levels (signal-to-noise ratio col 5 line 44); and determining said communication stability based on said boundary (system performance margin col 3 line 61).

Regarding **Claim 3**:

Chow teaches:

wherein said slave (receiver col 2 line 45) returns said response by distorting said response (variable target bit error rates col 5 line 35) according to said specified distortion level (performance margin objective and desired overall bit-error-rate col 7 lines 25-27) of the distorted test pattern received from said master unit (Bell col 12 lines 4-8).

Regarding **Claim 4**:

Chow teaches:

wherein said slave (receiver col 2 line 45) returns said response by distorting said response (variable target bit error rates col 5 line 35) according to the one different specified distortion level (performance margin objective and desired overall bit-error-rate col 7 lines 25-27).

Regarding **Claim 5**:

Bell teaches:

wherein said network system further includes a repeater (Fig. 3 node RN2 Col 9 line 60-61) connected between said master unit (RN1 Col 12 line 5-6) and said slave (RN3) (Col 9 lines 54, 56, 60, 61, 66-67), said repeater being adapted to carry out waveform shaping on said distorted test pattern to form a corrected signal and to output said corrected signal after distorting said corrected signal according to said specified distortion level (Col 12 line 18-23).

Regarding **Claim 6**:

Bell teaches:

wherein said network system further includes a repeater (Fig. 3 node RN2 Col 9 line 60-61) connected between said master unit (RN1 Col 12 line 5-6) and said slave (RN3) (Col 9 lines 54, 56, 60, 61, 66-67), said repeater being adapted (learns the link characteristics) to carry out waveform shaping (bandwidth optimization) (col 12 lines 18-23 and Chow col 3 lines 21-26) on said distorted test pattern to output a corrected signal and to output said corrected signal after distorting said corrected signal according to the one different specified distortion level (Col 12 line 18-23).

Regarding **Claim 7**:

Bell teaches:

wherein said network system further includes a repeater (Fig. 3 node RN2 Col 9 line 60-61) connected between said master unit (RN1 Col 12 line 5-6) and said slave (RN3) (Col 9 lines 54, 56, 60, 61, 66-67), said repeater being adapted (learns the link characteristics) to carry out waveform shaping (bandwidth optimization) (col 12 lines 18-23 and Chow col 3 lines 21-26) on said distorted test pattern to output a corrected signal and to output said corrected signal after distorting said corrected signal according to said specified distortion level (Col 12 line 18-23).

Regarding **Claim 8**:

Bell teaches:

wherein said network system further includes a repeater (Fig. 3 node RN2 Col 9 line 60-61) connected between said master unit (RN1 Col 12 line 5-6) and said slave (RN3) (Col 9 lines 54, 56, 60, 61, 66-67), said repeater being adapted (learns the link characteristics) to carry out waveform shaping (bandwidth optimization) (col 12 lines 18-23 and Chow col 3 lines 21-26) on said distorted test pattern to output a corrected signal and to output said corrected signal after distorting said corrected signal according to the one different specified distortion level (Col 12 line 18-23).

Regarding **Claim 9**:

Chow teaches:

wherein each of said distorted test pattern is generated by changing the duty ratio (Col 5 line 32-33 changing the duty ratio of a pulse is equivalent to changing its bandwidth) of said standard test pattern.

Regarding **Claim 10**:

Chow teaches:

wherein each of said distorted test patterns is generated by changing the duty ratio (Col 5 line 32-33 changing the duty ratio of a pulse is equivalent to changing its bandwidth) of said standard test pattern.

Regarding **Claim 11**:

Chow teaches:

wherein each of said distorted test pattern is generated by changing the duty ratio (Col 5 line 32-33 changing the duty ratio of a pulse is equivalent to changing its bandwidth) of said standard test pattern.

Regarding **Claim 12**:

Chow teaches:

wherein each of said distorted test patterns is generated by changing the duty ratio (Col 5 line 32-33 changing the duty ratio of a pulse is equivalent to changing its bandwidth) of said standard test pattern.

Regarding **Claim 13**:

Chow teaches:

wherein said distorted test pattern is generated by changing the duty ratio (Col 5 line 32-33 changing the duty ratio of a pulse is equivalent to changing its bandwidth) of said standard test pattern.

Regarding **Claim 14**:

Chow teaches:

wherein each of said distorted test patterns is generated by changing the duty ratio (Col 5 line 32-33 changing the duty ratio of a pulse is equivalent to changing its bandwidth) of said standard test pattern.

Regarding **Claim 15**:

Chow teaches:

wherein said distorted test pattern is generated by changing the duty ratio (Col 5 line 32-33 changing the duty ratio of a pulse is equivalent to changing its bandwidth) of said standard test pattern.

Regarding **Claim 16**:

Chow teaches:

wherein each of said distorted test patterns is generated by changing the duty ratio (Col 5 line 32-33 changing the duty ratio of a pulse is equivalent to changing its bandwidth) of said standard test pattern.

Regarding **Claim 17**:

Bell (col 10, lines 9-12), (col 11-12, lines 57-3), (col 10, lines 19-21) teaches:

A master unit (the Master node col 11, line 65) forming a programmable controller (programmable processor col 8, lines 36-39) and being connected to a network, said master unit comprising: transmitting means for transmitting a distorted test pattern (discrete multi-tone col 11, line 67) to a slave (node col 12, line 37), said distorted test pattern being formed by distorting a standard test pattern to a specified distortion level (discrete multi-tone col 11, line 67), said slave being connected to said network; and judging means for judging that said network has communication stability corresponding

to said specified distortion level if said master unit receives a response normally from said slave, said slave being adapted to return said response when said distorted test pattern is received normally (channel equalization process col 11, line 66).

Regarding **Claim 18**:

Bell (col 10, lines 9-12), (col 11-12, lines 57-3), (col 10, lines 19-21) teaches:

A slave (node col 12, line 37) that is connected to a network together with a master unit (the Master node col 11, line 65) forming a programmable controller (programmable processor col 8, lines 36-39), said slave comprising: judging means for judging whether or not a distorted test pattern distorted to a specified distortion level (discrete multi-tone col 11, line 67) and transmitted from said master unit through said network has been received normally; distorting means for distorting a response according to said specified distortion level, if said distorted test pattern has been normally received; and returning means for returning said distorted response to said master unit (channel equalization process col 11, line 66).

Regarding **Claim 19**:

Bell teaches:

A repeater (Fig. 3 node RN2 Col 9 line 60-61) for a network system including a master unit (RN1 Col 12 line 5-6), a slave (RN3 Col 12 line 37) and one or more repeaters (RNx Col 12 line 31) including said repeater between said master unit and said slave, said repeater comprising: waveform shaping means for carrying out waveform shaping

on a distorted test pattern distorted to a specified distortion level (discrete multi-tone col 11, line 67) and sent from said master unit; and outputting means for distorting the waveform-shaped test pattern according to said specified distortion level(noise and attenuation col 4, line 33) and outputting the distorted waveform-shaped test pattern (channel equalization process col 11, line 66) (Col 12 line 18-23).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Yoshida (USP 5943364) discloses setting bit rate according to line quality.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hooman Houshmand whose telephone number is 571-270-1817. The examiner can normally be reached on Monday - Friday 8 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Garber can be reached on 571-272-2194. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HH

CHARLES D. GARBER
SUPERVISORY PATENT EXAMINER